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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,551	10/30/2003	David Golman King	2003-0103.02	3037

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EXAMINER

NGUYEN, LAMSON D

ART UNIT PAPER NUMBER

2861

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

**Office Action Summary**

Application No.

10/699,551

Applicant(s)

KING ET AL.

Examiner

Lamson D. Nguyen

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-12,14-16,23-26 and 33 is/are rejected.
- 7) ☒ Claim(s) 3,13,17-22 and 27-32 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/30/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5-6, 10-11, 15-16, 25-26, and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Arquilevich et al. (6,137,592).

***Arquilevich et al teach a method of providing swath height and compensation comprising:***

#### **Claims 1, 11, 25-26, 33:**

- establishing a nominal printhead swath height to be associated with printheads of a particular type (column 2, lines 55-67; figure 6, nominal swath length l1)
- printing a swath using a first printhead of the particular type (figure 6, l2)
- measuring a printhead swath height of the first printhead (figure 6, printhead swath height l1)
- determining a difference between the measured printhead swath height of the first printhead and the nominal printhead swath height (column 2, lines 59-61)
- storing the printhead swath correction value in a printhead memory associated with the first printhead (figure 1, memory 36)

- a columnar array of N nozzles, individually identifiable as nozzle 1 to nozzle N (figure 6)
- printing a swath using at least nozzle 1 and nozzle N to form a plurality of substantially parallel lines, including a first line printed by nozzle 1 and Nth line by nozzle N (figure 6)

**Claims 5, 15:**

- the nominal printhead swath is defined by an ideal nozzle pitch multiplied by a number of nozzles in a columnar array (figure 6)

**Claims 6, 16:**

- wherein the printhead swath height correction value is used to modify a nominal media advance of an inkjet printer to establish a modified media advance distance (figure 5)

**Claim 10:**

- retrieving the printhead swath height correction from the memory and using that correction to modify at least one of an image data format and a nominal media advance distance of an inkjet printer to establish a modified media advance distance (figure 5, column 6, lines 36-column 7, lines 27)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arquilevich in view of Farr et al. (6,685,290).

Arquilevich et al teach all claimed features of the invention but did not explicitly teach the method being done during manufacturing

It is well-known in the art to perform calibrations of a printhead during manufacture as taught by Farr et al. (figure 8).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of calibration during manufacture taught by Farr et al for the pupose of characterizing consumable substance and determining threshold values.

Claims 4, 14, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arquilevich et al in view of Castano et al (6,755,499).

Arquilevich et al teach all claimed features of the invention except:

- the measuring of the printhead swath is done by an optical scanner

It is well-known in the art to utilize an optical scanner to measure swath height as taught by Castano et al.

Therefore, it would have been obvious to one having ordinary skill at the time of the invention to modify the invention of Arquilevich to incorporate the teaching of an optical scanner taught by Castano et al for the purpose of performing printer calibrations.

Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arquilevich et al.

Arquilevich et al teach all claimed features of the invention but do not explicitly teach the printhead memory being formed on a substrate of a printhead, mounted to an ink reservoir . It is well-known in the art to rearrange parts without modifying the operation of the device, which in this case, regardless of where the memory is installed, its function would not change. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Arquilevich to mount the memory on the printhead substrate and the ink tank for the purpose of storing printing device. In re Japikse, 181 F.2d 1019, 86 USPQ 70/

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arquilevich et al in view of Tham (6,857,731).

Arquilevich et al teach all claimed features of the invention, but did not explicitly teach a printhead cartridge. It is well-known in the art to have a printhead mounted on an ink reservoir to form a unitary cartridge having an ink level indicator as taught by Tham (figure 4). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the invention of Arquilevich to incorporate the ink cartridge taught by Tham for the purpose of indicating ink level.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arquilevich et al in view of Kanda et al (6,471,322).

Arquilevich et al teach all claimed features of the invention but did not explicitly teach a printhead with at least two nozzle arrays of different colors. It is well-known in the art of inkjet printers to utilize a printhead having at least two nozzle arrays of different colors as taught by Kanda et al. (figure 9a). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Arquilevich to incorporate the teaching of different colored nozzle arrays as taught by Kanda for the purpose of achieving high speed and high resolution printing.

#### ***Allowable Subject Matter***


Claims 3, 13, 17-22, 28-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lamson D. Nguyen whose telephone number is 571-272-2259. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Talbott can be reached on 571-272-1934. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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**LAMSON NGUYEN**  
**PRIMARY EXAMINER**  
01/22/05